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ABSTRACT

A rapidly growing change in the workplace is the replacement of a fixed work schedule with a variety of alternative work schedules (AWS), including both flexible and compressed schedules. Experimenting organizations (N=901) evaluated one of four major categories of AWS in office and nonoffice settings, i.e., a flexible 8-hour day; flexible-variable hour day which allows employees to vary length of work day as well as arrival and departure times; four 10-hour days (4-10); and 5-4/9 in which an employee works eight 9-hour days and one 8-hour day in a biweekly pay period. Each group completed questionnaires summarizing the results of their AWS experiments. Analyses of questionnaire responses in three categories (productive, overall success or failure, and use of short term sick and vacation time) showed that a majority of all experiments were judged successful. Office and non-office settings showed little difference except for the 5-4/9, which was least successful in office settings. The two compressed schedules had more failure than the two flexible types. Reduction in short term leave use was reported for all schedule types. Approximately 40-50% of the experiments reported increases in productivity, and 5-10% reported decreases. Compressed schedules in office settings were most likely to produce decreases. Results suggest that compressed work schedules are more sensitive to the work setting but the AWS does have positive effects for most types of organizations. (MCF)

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Alternative Work Schedules in Office and Nonoffice Work Settings

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Abstract

The study reports data from approximately 1000 Federal organizations that have been experimenting with flexible and compressed schedules. The effects of the alternative work schedules on employee attendence and three indices of productivity were compared for office and nonoffice work settings. All the schedules resulted in improvements but compressed schedules appeared to be more sensitive to the type of work setting.

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Alternative Work Schedules

in Office and Nonoffice Work Settings

One of the most rapidly growing changes in the workplace is the replacement of rigidly fixed work schedules with a variety of alternative work schedules (AWS). The two most common types of AWS are flexible and compressed schedules.

Flexible work schedules refer to a variety of arrangements in which fixed times of arrival and departure are replaced by a working day composed of two different types of time — core time and flexible time. Core time is the designated period during which all employees must be present at the worksite. Flexible time is designated as part of the schedule of working hours within which employees may choose their times of arrival at and departure from the worksite within limits consistent with the duties and requirements of their positions.

Like flexible work schedules, compressed work schedules may also take a variety of forms. The most common compressed work schedule is the 10-hour day 4-day week, referred to as the 4-10 schedule. However, a compressed work schedule is any schedule which enables the full-time employee to complete the basic work requirement in less than the traditional 5 or 10 workdays in each weekly or biweekly pay period.

In the past decade AWS has grown from an innovative change to traditional work schedules imported from Germany to an increasingly popular practice that includes 9.5 million full time workers in the United States. A recent Work in

America Institute policy study predicted that by 1990, "twenty-five percent of full-time nonagricultural workers in the United States will be on flexible work schedules [and] 5 percent will have compressed work weeks" (Rosow and Zager, 1981, p.4).

For the past three years the Federal Government has been conducting an experiment and evaluation of a wide variety of AWS. The experiment has involved more than 325,000 employees at 1500 work sites, engaged in a wide variety of work activities. The experiments with flexible schedules vary greatly. On one hand, some allow employees to vary their arrival and departure times while maintaining a fixed length workday (e.g., eight hours per day). On the other are schedules which allow employees to vary the number of hours per day and even the number of days worked per week. In all cases a weekly or pay period work requirement must be fulfilled. Some Federal experiments with compressed schedules have involved workdays of 12 hours or more. However, the majority of compressed work schedule experiments were four ten hour days or the 5-4/9 schedule. In the 5-4/9 an employee works eight nine hour days and one eight hour day in a biweekly pay period.

Previous studies of AWS have reviewed the effects across a variety of organizations (e.g., Golembiewski and Proehl, 1978; Nollen and Martin, 1978) or within a single organization or worksite (e.g.,Kim and Campagna, 1981; Schein, Maurer, and Novak, 1977). In general, these previous studies have concluded that AWS result in improved employe attendance and increased prodictivity. However, the focus has been on flexible work schedules, typically incplemented in a white collar office work environment. This paper presents some of the data from a comprehensive evaluation conducted by the Office of Personnel Management (OPM) and provides a unique analysis of the effects of AWS by broadening the range of work schedules examined to include

compressed schedules and by comparing the effects in office and nonoffice (e.g. forestry, construction, warehouse factory, and laboratory) work settings. It examines data collected from many organizations which differed in geographic location, size, mission, and mixture of employee work activities. In addition, all the AWS experiments were conducted concurrently and had the same basic administrative guidelines, e.g., premium pay rules, 80 hour biweekly pay periods.

Method

As part of the evaluation conducted by OPM, experimenting organizations were required to make an evaluation of their AWS experiments following guidelines established by OPM. Part of the evaluation required completion of a questionnaire which summarized the results of the experiment. The present paper focuses on three items concerning productivity and their direction of change. The three items separated productivity into three elements: quality, quantity, and timeliness of work products. The questionnaire also asked for the effects of AWS on the use of short term (4 hours or less) sick and annual (vacation) leave. In addition a single global evaluation item rating "the overall success of the AWS experiment in your organization" was also used to categorize an experient as a success, neutral, or a failure.

This paper presents the data from 901 organizations which were experimenting with one of four major categories of AWS. The categories are flexible-8 hour day (F8), flexible-variable hour day (FV), 4-10, and 5-4/9. F8 schedules are flexible schedules which maintain an eight day but allow flexible arrival and departure times. FV schedules allow employees to vary the length of the work day and work week as well as the arrival and departure times as long as the employee completes the weekly or biweekly work requirement. The other two

categories are compressed schedules of four ten hour days and the 5-4/9. Each organization was categorized according to the type of work setting as "office" or "nonoffice." Nonoffice included outdoors, warehouse, shop, factory, hospital and laboratory work settings. Table 1 shows the number of experiments in each of the categories.

Results and Discussion

Figures 1-5 present the results for the five sets of dependent variables. The bars to the left of the "0 percent line" indicate a negative effect, i.e. the schedule was a failure, or it lead to a decrease on that measure; a bar to the right indicates a positive effect.

Figure 1 shows the responses to the global evaluation item. The majority of all experiments were judged to be a success. The differences between office and nonoffice settings were very small except for the 5-4/9 schedule. In fact the 5-4/9 schedule had nearly all the extremes. It had the highest percent of successes: 89.8% nonoffice; the lowest percent of successes: 68.1% office; and the highest percent of failures: 12.4% office. The two compressed schedules had more failures than the two flexible schedule types.

The effects of AWS on the use of short term sick and annual (vacation) leave are shown in Figure 2. The results for both sick and annual leave are very similar. About 60% of the experiments reported reductions in short term leave use. The major exception to this finding is that the two compressed schedules (4-10 and 5-4/9) had reductions reported in approximately 50% of the experiments.

Figures 3-5 show the data from the three measures of productivity: work quantity, quality, and timeliness. While the pattern of results shows some variability across the three measures, a few generalizations can be drawn.

Overall, approximately 40-50% of the experiments reported increases in productivity and approximately 5-10% of the experiments reported decreases. Across the three measures experiments with compressed schedules in office settings were most likely to report decreases in productivity.

The results of the study are consistent with previous studies of flexitime that reported reductions in short term leave use and increases in productivity. The data also suggest that these generalizations also hold true for compressed schedules although the chances of failure are slightly greater. The data also suggest that compressed work schedules are more sensitive to the work setting. Interview and other data collected as part of OPM's evaluation also support these conclusions. Seventy-five percent (64 of 85) of the AWS experiments that were terminated early were on compressed schedules. In contrast the largest measured gains in productivity were in nonoffice organizations working on compressed schedules, e.g. aircraft repair shops and road maintenance crews.

AWS do have positive effects for most types of organizations. Future research and evaluation on AWS should focus on the fit between work schedules and type of work organization to maximize the payoffs and reduce the risks from AWS.

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Table 1

Number of Experiments in Each Category

	Work Setting	
	Office	Nonoffice
F8	89	22
FV	120	46
4-10	106	202
5-4/9	257	59
Total	572	329

FIG. 1 OVERALL EVALUATION

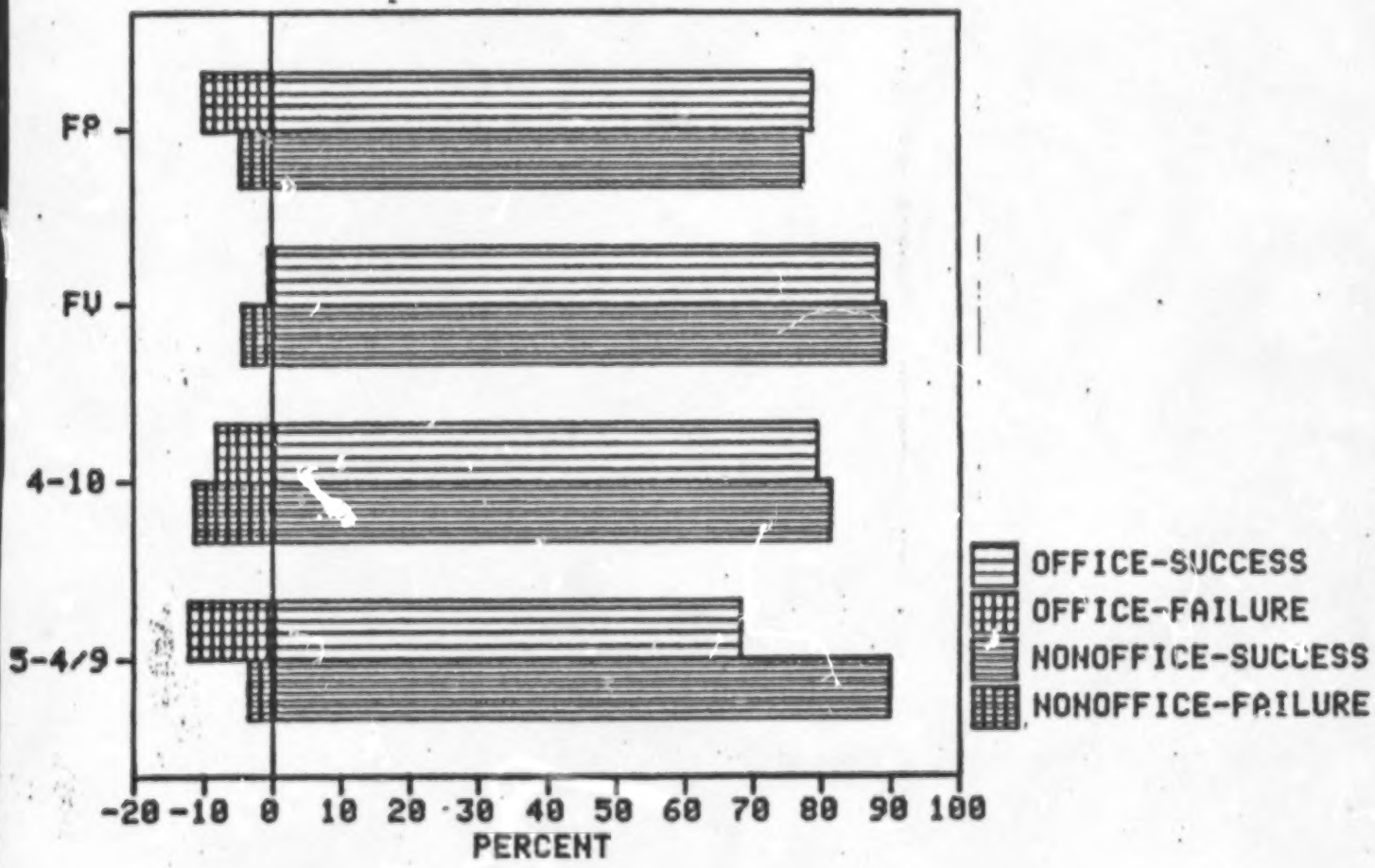
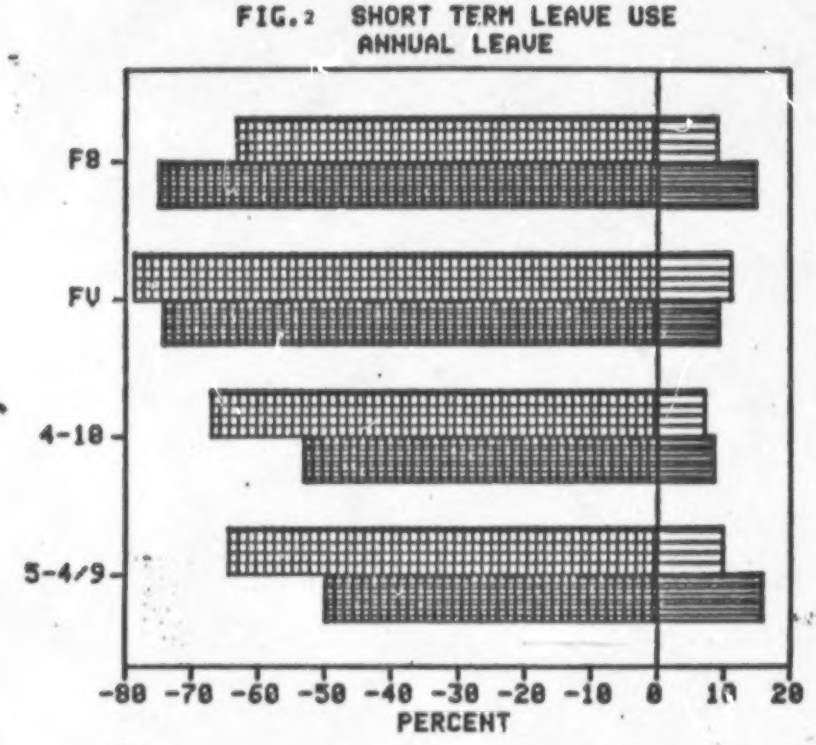


FIG. 2 SHORT TERM LEAVE USE



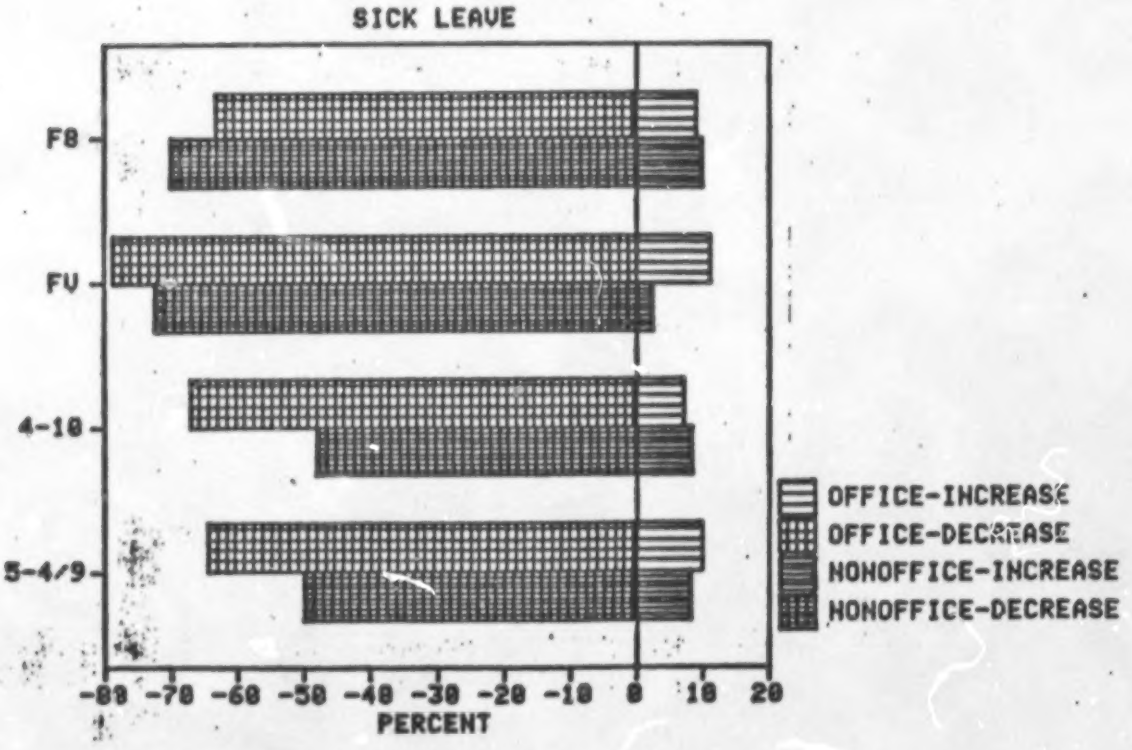


Fig 3 PRODUCTIVITY: WORK QUALITY

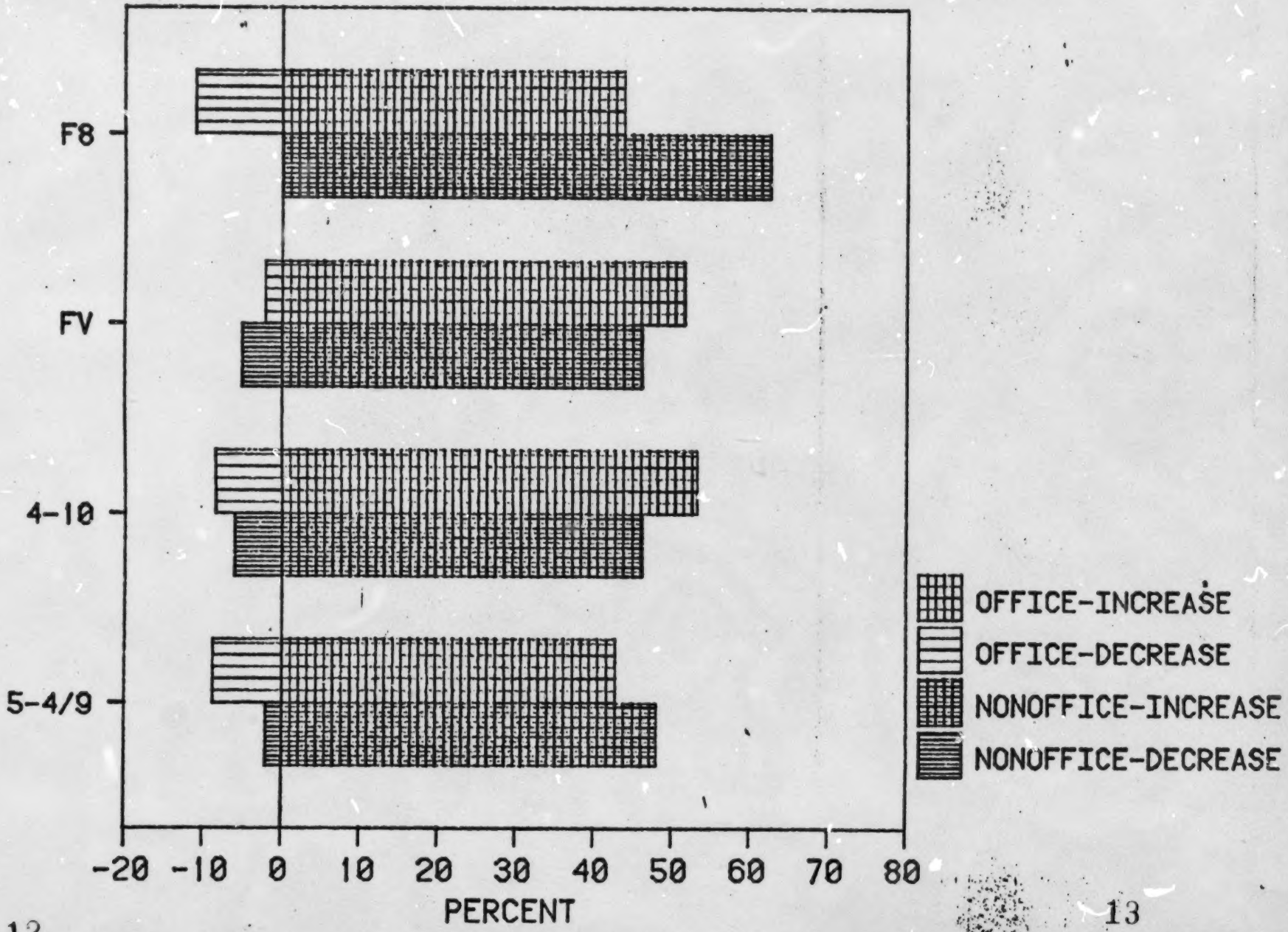


Fig 4 PRODUCTIVITY: WORK QUANTITY

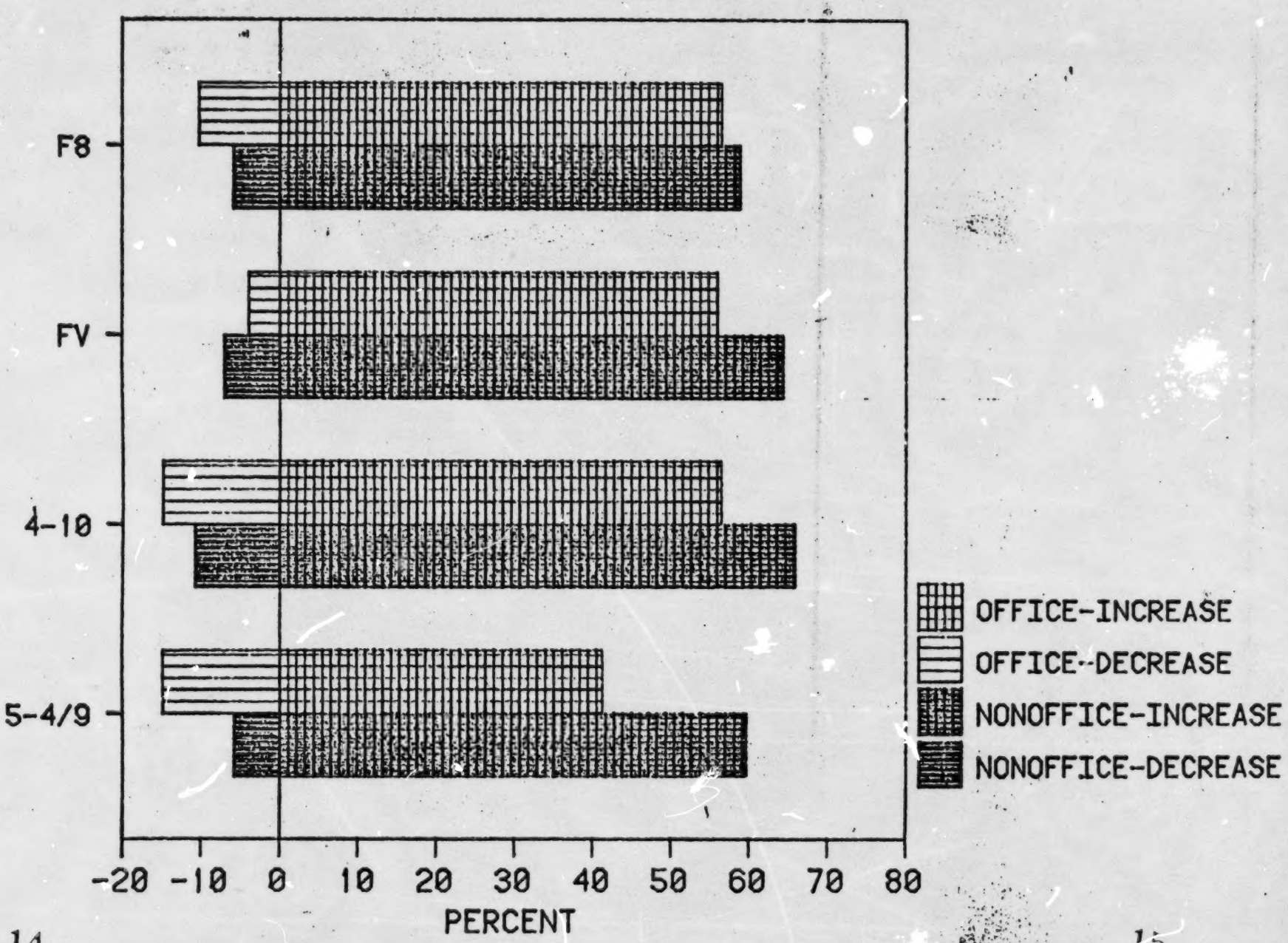


Fig 5 PRODUCTIVITY: WORK TIMELINESS